



wherein:

A^0 , A^1 , A^2 , A^3 are each independently C_pH_{2n+1} or C_pF_{2p+1} ;

D is LX, wherein L is a linker moiety; and

p is not less than 1.

18. The organic-inorganic interpenetrated hybrid chromophoric polymer dot of claim **17**, further comprising a biological molecule conjugated to D.

19. The organic-inorganic interpenetrated hybrid chromophoric polymer dot of claim **18**, wherein the biological molecule comprises a protein or a nucleic acid.

20. The organic-inorganic interpenetrated hybrid chromophoric polymer dot of claim **1**, wherein the semiconducting chromophoric polymer and the inorganic network form an organic-inorganic interpenetrated network, and wherein the organic-inorganic interpenetrated network is mesh-like.

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